Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

CURRENT LITERATURE.

BOOK REVIEWS.

Research methods in ecology.

WE seldom receive a work whose central idea is essentially new, but Dr. CLEMENTS'S latest volume[1] almost if not quite attains this distinction. The ecology of our day is to be divided into the true and the false, and most of it, unfortunately, is of the latter type. It is a subject which, on the surface, seems to lend itself well to the lovers of fads, and there are many "contributions" to ecology which consist of a hasty gathering together of notes made in leisure moments during summer holidays. The true ecology, the ecology that is to be, is developed only by the most arduous and long-continued work. The dilettante ecology is to pass away, and one of the foremost causes for this change will be this new book of CLEMENTS.

The opening chapter reveals the author's ideals as to the meaning and place of ecology, its historical development, its present status (largely deplorable, because so many tyros are making desperate attempts to enter the new and inviting field), and its relationships with other botanical lines of research. The second chapter, entitled the habitat, considers in detail the various ecological factors, and will be of extraordinary value to ecological research, because it recounts in full the ingenious and multiform methods that have been employed by the author in the study of the Nebraska and Colorado vegetation. Soil, water-content, atmospheric humidity, and light are regarded as direct factors, and hence more attention is paid to them than to indirect factors (such as temperature), or remote factors (such as altitude). The various instruments of precision, such as psychrometers, psychrographs, photometers, thermographs, and many others, are figured and their use explained in full. For the physical and physiological water-content of the soil, the author proposes respectively the terms holard and chresard. The word ecograph is employed as a general term embracing all instruments that are used for the determination of physical habitat factors. Much space is devoted, and properly, to the intelligent expression of results; we greatly regret that the metric system is not exclusively employed in these tables.

"The plant" is the title of the third chapter, and an admirable survey is given of the more important adjustments and adaptations; the former word is used to denote functional response, the latter structural response. These most important distinctions are often disregarded, thus leading to deplorable confusion. Response to water is termed hydroharmose, to light photoharmose. In this, as in the preceding chapter, methods of measurement are described, but of course they are much less satisfactory. This is a difficulty that in part inheres in the more complex phenomena that are to be measured, but also in part in the fact that physiologists have failed to cultivate as they might this fertile and enticing field. One might wish for a softening of the teleological terminology, as in p. 129 and p. 143; whether there is or is not an ultimate teleology, it seems wiser to discard its vocabulary. It seems to the reviewer that expressions implying purpose are in part responsible for the disfavor in which ecology is sometimes held. The close of this chapter is devoted to a consideration of experimental evolution, and a full account is given of natural, habitat, and control cultures.

---

[1] CLEMENTS, F. E., Research methods in ecology. pp. xvii+334. Lincoln, Neb.: The University Publishing Co. 1905.

The final chapter considers plant formations, and their study is based on the quadrat method, much of which the author has previously published. Among the subjects here treated are cartography, photography, and formation herbaria. The discussion of the development and structure of vegetation is much like a separate treatise on the same subject already reviewed in these pages. Methods for the study of succession and competition are given. At the close is a helpful glossary.

One can scarcely praise this work too much; it is what is needed to prevent ecology from falling into a swift and merited disfavor. If read and pondered, it will prevent the thoughtless from entering the ecological field, and it will serve the higher end of directing the thoughtful as to the methods of procedure.—H. C. COWLES.

MINOR NOTICES.

THE ADMIRABLE illustrations of vegetation issued by KARSTEN and SCHENCK have frequently been noted in the GAZETTE. A somewhat similar idea has been pursued by WETTSTEIN,[2] who has issued reproductions of a large number of the Brazilian photographs secured by F. VON KERNER and himself on their recent journey to South America. There are fifty-eight plates in phototype, four colored plates, and six text figures. In nearly every instance the original photographic work and the subsequent reproductions have been admirable, and one who has never visited the Brazilian tropics may yet gain herefrom an accurate idea of their general appearance. Not only are there illustrations from the tropical and subtropical rainy forests, but the savannas and the mountains are figured as well.—H. C. COWLES.

SCOTT[3] has given an exceedingly interesting and comprehensive account of the recent development of knowledge in reference to the seed plants of the Carboniferous. It will prove very useful to those who have neither the time nor

---

[2] WETTSTEIN, R. VON, Vegetationsbilder aus Südbrasilien. Leipzig and Vienna. 1904.

[3] SCOTT, D. H., The early history of seed-bearing plants, as recorded in the Carboniferous flora. The Wilde Lecture. Manchester Memoirs **49**: no. 12. pp. 32. *pls. 3.* 1905.